

Response to Comments

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Introduction

According to CEQ regulations for implementing NEPA (40 CFR §1503.4), an agency preparing a final environmental impact statement shall assess and consider comments both individually and collectively, and shall respond by one or more of the means listed below, stating its response in the final statement Possible responses are to:

- (1) Modify alternatives including the proposed action.
- (2) Develop and evaluate alternatives not previously given serious consideration by the agency.
- (3) Supplement, improve, or modify its analyses.
- (4) Make factual corrections.
- (5) Explain why the comments do not warrant further agency response, citing the sources, authorities, or reasons which support the agency's position and, if appropriate, indicate those circumstances which would trigger agency reappraisal or further response.

The public comment period for the draft of the Steller Sea Lion Protection Measures SEIS ran from August 31, 2001 through October 15, 2001 (45 days). Comments were also solicited separately for the draft Biological Opinion that was included as Appendix A to the Draft SEIS. The comment period for the Draft Biological Opinion ran from August 20, 2001 through September 21, 2001. In reply to both solicitations for comments, the lead agency received thirty unique written comments (original letters, petitions, meeting reports) and over 1000 iterations of the same letter signed by different people. The comment letters were numbered in order of receipt. Letters with more than one signatory were assigned a series of numbers to represent each signatory.

In accordance with 40 CFR 1503.4(b), the comments received are attached to this final statement (first part of this Volume III) whether or not the comment is thought to merit individual discussion by the agency in the text of the statement. Comments related to the SEIS are being responded to in the section immediately below. The comments are paraphrased from the comment letters and organized by the following themes.

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Comments specifically directed to the draft Biological Opinion were taken into consideration prior to finalization of the Biological Opinion, but they are not being responded to in the same manner as the comments we viewed as being directed at the NEPA part of the analysis. This procedure is somewhat unique because NMFS is experimenting with public review of draft biological opinions. This particular draft Biological Opinion was one of three released for public review as part of that experiment (see NMFS correspondence dated March 7, 2001, and May 30, 2001), and the only one of the three that was prepared in parallel with an environmental impact statement. This trial procedure will be evaluated in the near future,

prior to consideration as a permanent part of National Marine Fisheries Service standard operating procedures.

One substantive letter of comment (#803) was received from the Marine Mammal Commission on October 23, 2001, after the comment period for the Draft SEIS had ended. Time constraints prevented us from drafting point-by-point responses to their comments. However, that letter has also been reproduced in its entirety and is included in this first part of this volume with the other comment letters.

Response to Comments

Theme 1. Comments related to the effects of this proposed action on Steller sea lions.

Comment 1: NMFS fails to explain or justify the selection of a RPA alternative that will, by NMFS' own estimation, result in continuing negative growth rates and declines in the Steller sea lion population. Why was there no further consideration of Alternative 2, which would have resulted in positive growth rates?

Response: NMFS disagrees that any of the alternatives would result in positive growth of the sea lion population. In order for that to occur, the actions would have to result in an increase in the observed percentage change in the population of over 6% which would change the intrinsic rate of natural increase (r) to 0.5%. NMFS concluded that both Alternatives 2 and 3 were conditionally significant positive for spatial and temporal concentration of the fisheries, but did not conclude that either was likely to result in positive r , or increased potential for population growth.

The selection of alternatives was instead based on whether or not a suite of fishery management actions adequate to avoid jeopardy and adverse modification of critical habitat as defined under the ESA could be contrived, and then, the extent to which a particular alternative imposed the least disruption to fishing practices. Under the ESA, to "jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR 402.02).

Comment 2: We concur with NMFS's selection of Alternative 4 as the preferred alternative.

Response: Statement of constituent's position noted.

Comment 3: The SEIS fails to evaluate the large confidence limits around the model-derived estimate of prey stock size or the risks to Steller sea lions associated with those confidence limits.

Response: Confidence limits are statistical terms that communicate degree of reliability around a particular estimate. Whether a large or narrow confidence limit is calculated depends primarily on the sample statistics available to factor into the model. Without more exhaustive sampling, confidence limits will remain large. More frequent surveys and surveys at different times of the year (winter) are desirable, however, budget and logistical constraints are quite real.

Comment 4: The SEIS fails to explain precisely what environmental pressures are acting on Steller sea lions to such an extent that the population can be expected to decline in the absence of all fishing.

Response: NMFS does not know exactly what environmental factors are acting on sea lions such that the population continues to decline. The factors include those that directly affect sea lions; those that affect the sea lion's prey; and those that affect the prey of the sea lion's prey. All of those factors act either independently or synergistically throughout the ecosystem. It is this complexity that makes identification of factors affecting only sea lions so difficult. Over the course of evolutionary history, numerous factors have acted on sea lions such that natural selection has favored those that we presently see. It would be gross speculation for NMFS to identify which ones are presently dominant and are driving the population decline.

Comment 5: The SEIS fails to provide an adequate analysis of fishery catch distributions inside and outside of critical habitat during the period of U.S. management under the FMPs or to compare levels of fishing that would occur in critical habitat under the proposed Alternative 4 to previous levels of fishing inside critical habitat.

Response: NMFS thinks the analysis of fishery catch distributions inside and outside of critical habitat is adequate. During the period of U.S. management, regulations and area restrictions have changed markedly, as have catch-data reporting-protocols. 1999 data were chosen as representative of current management measures for some parts of the analysis, and other, longer, series of data were used when those series were more appropriate to the particular questions being addressed. Appendix E provides data on target species, harvest amounts, location, participating vessel sizes, and time of harvest (by week) in these fisheries for the action area (see Appendix E Table E1-1 for 1999 catch (in metric tons) of Atka mackerel, Pacific cod, and pollock in the BSAI and GOA target groundfish fisheries by gear type, federal reporting area (Zone), and processing mode). Catch inside critical habitat was totaled and labeled "at risk" in order to predict how much catch might be foregone under the alternatives (Appendix C (Regulatory Impact Review)). To set up the analysis for all resource issues, projections of catch, acceptable biological catch, spawning biomass, and total biomass under the five alternatives were made using a model set with harvest amounts of the average of years 1997-1999 (see section 4.2.1 for a description of the projection model and the output tables 4.2-1 for Eastern Bering Sea pollock, 4.2-2 for Gulf of Alaska pollock, 4.2-7 for Eastern Bering Sea Pacific cod, 4.2-11 for BSAI Atka mackerel, and Table 4.2-12 for GOA Atka mackerel). The prohibited species impact analysis used data from 1997-1999 (see Table 4.5-1).

Comment 6: Expanded trawl exclusion zones are necessary to protect foraging areas in critical habitat beyond 10 nm particularly during winter months. NMFS has acknowledged that no-trawl zones of 10 or 20 nm do not reflect broad seasonal foraging patterns and are not sufficient to protect winter foraging grounds. These acknowledgments must be disclosed and their importance analyzed in the SEIS.

Response: Statement of constituent's position noted. NMFS disagrees that the no-trawl zones as described in Alternative 4 are insufficient to protect winter foraging grounds.

Comment 7: Prey distribution within the Alternative 4 "zones of concern" in critical habitat is unknown and the distribution of fishing within these zones is not analyzed in the SEIS, rendering the approach of Alternative 4 to critical habitat arbitrary and capricious.

Response: NMFS concurs that prey distributions within the zones of concern are unknown and has therefore chosen a conservative management scheme embodied in Alternative 4. Distribution of fishing relative to Steller sea lion critical habitat is displayed in the analysis (see response to comment 5.). NMFS disagrees that its choice of Alternative 4 is arbitrary and capricious.

Comment 8: It is not necessarily the best approach to create large scale protected areas in Steller sea lion critical habitat as suggested in Alternative 2. It may be best to create a network of small refugia as suggested in Alternative 4.

Response: Statement of constituent's position noted.

Comment 9: Longline fishing causes local aggregations of fish, not localized depletions. Three studies supporting this are attached.

Response: NMFS has reviewed the attached studies and the final Biological Opinion was revised to reflect the information they contain. NMFS agrees that the evidence indicates that some species of fish aggregate in the vicinity of longlines. The studies to date, however, have concerned Atlantic cod (*Gadus morhua*), and haddock (*Melanogrammus aeglefinus*), species not found off Alaska.

Comment 10: The SEIS fails to consider a reasonable range of alternatives because NMFS failed to include an alternative that would result in positive population growth for Steller sea lions in western Alaska.

Response: NMFS has opined that no option, including no fishing at all, would result in positive population growth for Steller sea lions during the next seven years.

Comment 11: NMFS fails to explain why they have measured the impacts of alternative RPAs on the Steller sea lion population as a whole, while ignoring regional trends.

Response: The only period when analyses based on regional trends are valid is during the sea lion breeding period (late May to early July). Before and after this period, Steller sea lions typically move throughout their range and do not remain in any one site for a long period. Analysis of impacts on a regional scale could therefore include those animals from that region, as well as those from nearby regions. Thus, for instance, the effects of an action in the central Gulf of Alaska, could be seen from southeastern Alaska to the Aleutians. For these reasons, effects are best measured on a population rather than regional scale.

Comment 12: NMFS mischaracterizes Alternative 1 as the "no-action" alternative, stating that under this alternative, Steller sea lion protection measures would expire, which would violate the ESA. However, under NEPA and the Magnuson-Stevens Act, the optional action is the authorization of the fisheries themselves. NMFS is never obligated to authorize a fishery. Therefore, the "no-action" alternative must be to not authorize a fishery.

Response: NMFS disagrees. The alternatives were accurately defined. The scope of this analysis was deliberately defined as being within the parameters of the existing Secretary of Commerce approved FMPs. The FMPs are not at this point in time being considered for withdrawal.

Comment 13: Alternative 4 allows excessive harvest of BSAI pollock from inside the SCA during the critical winter season. The 75% allowed inside the SCA mirrors the pollock fishery average from 1991 to 1998 and NMFS provides no justification for allowing such a large percentage of the catch to be taken from inside the SCA.

Response: The amount of harvest in the SCA before April 1 is limited to 28 % of the annual pollock directed fishing allowance. To protect the critical areas for Steller sea lions, a portion of the SCA is closed to pollock fishing in the A season (January 20 - June 10). The Bering Sea Pollock Restriction Area includes waters of the Bering Sea subarea south of a line connecting the points 163° 0'00" W long./55° 46'30" N lat., 165° 08'00" W long./54° 42'9" N lat., 165° 40'00" long./54° 26'30" N lat., 166° 12'00" W long./54° 18'40" N lat., and 167° 0'00" W long./54° 8'50" N lat. This ensures that all rookeries and haulouts within the SCA are protected from pollock fishing to at least 10 nm of shore and that additional shoreline likely to be used by Steller sea lions for foraging is also protected. The abundance of pollock in the SCA has been determined to be

sufficient to allow limited directed fishing for pollock and to provide adequate prey resources to Steller sea lions. The Bering Sea Pollock Restriction area and the Bogoslof Foraging Area closures will reduce the risk of localized depletion of prey.

Comment 14: NMFS provides no rationale for a lack of caps on [pollock] catch in the SCA or spatial dispersion of harvest during the summer/fall season. This ignores previous agency analyses and RPA recommendations.

Response: A cap on the harvest of pollock in the SCA at 28% of the annual pollock directed fishing allowance will be implemented. Spatial dispersion of pollock harvest in the summer and fall will be accomplished through area closures around haulouts and rookeries, a prohibition on directed fishing for pollock by non CDQ catcher processors in the SCA during the “B” season, and the closure of the Segum and Bogoslof foraging areas. The protection measures were developed with consideration of the analyses contained in the November 30, 2000 and October 19, 2001, Biological Opinions and the SEIS.

Comment 15: The SEIS determines that Alternative 4 would have a conditionally significant negative effect on the harvest of prey species of Steller sea lions. This appears to be based on the fact that Alternative 4 would not reduce the TAC by more than 5 percent over the 1998 level. Given that the Biological Opinion determines that the global availability of prey is adequate to meet the foraging needs of Steller sea lions, we believe that overall TAC should not be used to determine significance of the alternatives.

Response: The analysts preparing this document agree with this point. The criteria for determining effects on harvest of prey species for Steller sea lion and the other marine mammal species and groups has been expanded to include consideration of daily removals compared to deviations from the mean daily removals calculated for all alternatives. See the discussions of question 2, harvest of prey species of importance to marine mammals, in section 4.1 Effects on Marine Mammals.

Comment 16: All alternatives propose restrictions on cod management year-round in all areas when cod is only an important Steller sea lion dietary component in the winter. This is inappropriate.

Response: NMFS disagrees. The causes of dietary shifts at different seasons of the year are not fully understood at this time. As a precautionary approach, therefore, the alternatives attempt to spread cod fishing effort out across all seasons, including winter.

Comment 17: Alternative 2 would have severe negative impacts on fisheries, socio-economics, management and enforcement.

Response: Statement of constituent's position noted. NMFS found that the nature and scope of those impacts have been set forth clearly in the analysis.

Comment 18: Alternative 4 fails to provide any reasonable assurance that groundfish catch levels and spatial/temporal distribution at the regional and local scales of competitive interaction will avoid continued jeopardy to Steller sea lions or adverse modification of nearshore and pelagic foraging habitat. [Rationale is on page 4 of comment letter #0008]

Response: The determination that the fishery management measures in alternative 4 are adequate to avoid jeopardy and adverse modification of critical habitat was made in the NMFS 2001 Biological Opinion. Commenters have made statements of their position on the matter both agreeing and disagreeing with the conclusions. The agency will continue research and monitoring of fisheries, Steller sea lion, and environmental conditions as explained elsewhere. The agency will also reinitiate section 7 consultation when the one of the triggers for reinitiation are met. For now, and for the proposed fisheries management measures

in Alternative 4, the determination is that the measures are adequate to avoid continued jeopardy to the species or adverse modification of nearshore and pelagic foraging habitat.

Comment 19: Alternative 4 fails to eliminate jeopardy for Steller sea lions and fails to prevent adverse modification of critical habitat.

Response: Statement of constituent's position noted. See Response for comment 18 for similar discussion.

Comment 20: NMFS fails to explain or justify the choice of a preferred alternative that will, according to its analysis, result in continued Steller sea lion population declines.

Response: NMFS has opined that no option, including no fishing at all, would result in positive population growth for SSLs during the next seven years. See Response for comment 1 for more discussion.

Comment 21: In the 2000 Biological Opinion, NMFS concludes that competitive interactions with groundfish fisheries as a whole jeopardize the survival and recovery of Steller sea lions and cause adverse modification of critical habitat. NMFS says that the RPAs must avoid adverse modification at three scales where competitive interaction occurs (global, regional, and local). An adequate RPA package can only do this by reducing groundfish catch levels, dispersing groundfish fisheries in time and space and eliminating the possibility of direct food competition. Only Alternative 2 meets these tests.

Response: The November 30, 2000, biological opinion was developed in response to the Court, which had determined that NMFS had not successfully prepared a comprehensive, FMP level opinion. For that opinion NMFS determined that the action (authorization of the BSAI and GOA FMPs) were likely to jeopardize Steller sea lions and adversely modify their critical habitat. NMFS developed an RPA as required by regulation that involved both FMP level and project level elements. For example, the implementation of a global control rule was an FMP level element of the RPA, while fishery closures for pollock in certain areas was a project level element. In 2001, substantial new information on the location of Steller sea lions and the relative location of their assumed foraging trips to fisheries became available. This prompted the Council to develop a new fishery management regime for pollock, Pacific cod, and Atka mackerel based on the new information and the need to avoid jeopardy and adverse modification of critical habitat. Consultation was requested by the Sustainable Fisheries Division on the new proposed action. This new proposed action was not an RPA. Additionally, the scope of the consultation was for the Atka mackerel, Pacific cod, and pollock directed fisheries (project level consultation). The agency determined that the proposed action did not require NMFS to prepare a new biological opinion for the full scope of the FMPs because the only element of the proposed action that was hardwired into the FMPs was the global control rule. The global control rule was not being substantially changed from the previous consultation, and therefore the November 30, 2000, biological opinion still meets NMFS's requirements to consult on the FMPs. The October 19, 2001, opinion meets the agency's requirements to consult at the project level on all federal actions.

The October 2001 biological opinion incorporates much of the Nov. 2000 opinion as an overarching guiding document for the fisheries. However, at the project level, the October 2001 opinion utilized new information not available in Nov. 2000 to determine whether the proposed action is likely to jeopardize Steller sea lions or adversely modify their critical habitat. The October 2001 biological opinion relies more heavily on protection of nearshore areas than on the temporal and spatial distribution of the fishery, in large part due to the limited interaction between fisheries and sea lions as determined from the new telemetry information. It should be noted that as new information becomes available, NMFS is required to re-initiate consultation if that information would change the way in which NMFS manages fisheries in order to avoid jeopardy and adverse modification of critical habitat.

See the response to comment 22 regarding the alleged uniqueness of Alternative 2 in meeting ESA requirements for the management of fisheries relative to the needs of Steller sea lion.

Comment 22: We urge NMFS to support Alternative 2, the Sea Lion Recovery Alternative, for the following reasons: it promotes recovery of Steller sea lions, by the agency's own calculations it will result in a population increase of .7% per year; it eliminates competition for prey from industrial fishing by setting catch limits and restricting fishing in critical habitat areas; and it allows for continued fishing opportunities for small scale, family based boats in critical habitat. [Over one thousand copies of this or similar letters were received. Letter of comment #0033 has been reprinted as an example].

Response: Statement of position is noted. Over a thousand written copies of this same comment were received during the public comment period. The comment notes that NMFS has an obligation under the Endangered Species Act to promote recovery of Steller sea lions. NMFS actively acknowledges that all federal actions must be in compliance with the Endangered Species Act; stewardship of living marine resources for the benefit of the nation through science-based conservation and management is the stated mission of the organization. Conservation of Steller sea lions is of paramount importance to the agency. Reconfiguring the fisheries so they do not jeopardize the continued existence of Steller sea lions or adversely modify their critical habitat was the primary purpose of this action.

The comment goes on to say, however, that "rather than supporting an alternative that will continue the road to extinction for Steller sea lions, we urge NMFS to support the approach taken in Alternative 2..." None of the proposed alternatives considered as possible options for management of the action fisheries are likely to lead to the species' extinction. In fact, all alternatives contained management actions and conservation efforts to enhance sea lion survival. The agency has determined that Alternative 4 is the preferred alternative based on a full analysis of biological, social, and economic considerations. If impacts to Steller sea lions alone were used, then Alternative 2 has less adverse impact than Alternative 4. But, Alternative 2, by itself, is unlikely to result in a positive population growth. It is more likely that the rate of SSL population decline would only be slightly less (and it is equivocal that this change in rate could even be measured given the constraints and biases of monitoring schemes available to scientists). At the rate the Steller sea lion population is presently declining, a little over -5 % per year, and given the animal's reproductive and life history parameters, the effects of any management action are not likely to reverse the decline in the near term.

Theme 2. Steller sea lion research tools and status of research

Comment 23: Alternative 4 fails to address large seasonal differences in sea lion foraging ranges or the need to protect the large aquatic foraging areas beyond 20 nm in Shelikof Strait and the Aleutian Islands.

Response: NMFS disagrees. Large differences in sea lion foraging ranges were addressed. The analysts were aware of differences in use of foraging areas by seasons and considered relative use in their analysis, but concluded that the sample sizes were too small and that the data did not provide compelling evidence for altering their conclusions. Recent telemetry and behavioral data suggest that the large aquatic foraging areas still need protection in terms of their designation as critical habitat, but there are no data to suggest that current fishery practices or the preferred Alternative 4 would degrade these locations to a level that would compromise the survival of sea lions foraging in those areas.

Comment 23: TAC projections were used as the basis for the take estimates in Table 4.1-2. Given the weakness of the nutritional stress theory, and the concerns about using TAC to make determinations of significance, it appears that these estimates are valueless. If included, they should be described as effects without suggesting the legal conclusions about take.

Response: Some incidental take is a result of (or associated with) harvest activity. Takes are infrequent, and their rates vary by location and time, but it is fairly safe to assume that harvest activity will occasionally result in some take. Though the agency would prefer a more refined proxy than total removals to predict take rates, one is not available at this time. Ongoing debates of the nutritional stress theory are not related to whether TAC projections are used as the basis for estimating incidental take.

Comment 25: The available data comparing eastern and western rookery populations provide no basis for concluding that the western stock is currently not suffering from food shortages and food stress.

Response: Available data are insufficient to determine whether the western stock is, or is not, suffering from food shortages. Studies conducted in the 1970s and 1980s, which provided the original data from which researchers concluded that the western stock was food limited, have not been repeated. Thus, one can not argue one way or the other as to whether the current population is under the same nutritional stress as the population was 20 years ago.

Comment 26: The SEIS fails to put the discussion of the "junk food" hypothesis into its proper context and fails to present historical evidence that pollock has always been an important part of the Steller sea lion diet.

Response: NMFS disagrees. Section 3.1.1.7.3 has a discussion of the evidence, both pro and con, that pollock has historically been an important part of Steller sea lion diet.

Comment 27: Alternative 4 fails to address cumulative impacts of the fishing exploitation strategy at the global scale of competitive interaction.

Response: Statement of constituent's position noted. Alternative 4 includes a harvest control rule that addresses these cumulative impacts. Further, assessment of fishing exploitation strategy is ongoing with respect to effects on listed species. Re-initiation of section 7 consultation will occur as necessary. Further adjustments to fishery management measures will be made if concerns are identified.

Comment 28: The validity of the nutritional stress hypothesis should be tested and quantified and the impacts of different gear types on localized depletions should be tested so that each fishery can bear the burden of its own impacts, if any.

Response: NMFS agrees that further research into these, and other, aspects of the relationships between Steller sea lions and the groundfish fisheries are needed. Many aspects of such research are either planned or underway.

Comment 29: The SEIS asks the reviewer to take a "leap of faith" and accept the nutritional stress hypothesis. As a consulting agency we strongly encourage a more thorough consideration of the issues raised in the Bowen et al September 2001 report and the State of Alaska ASSLR August 2001 report.

Response: Comment noted. NMFS acknowledges that the causes of the decline in SSL populations are not known with certainty. NMFS plans to continue to support this research and further analyze this issue.

Comment 30: Based on the analysis, the only alternative that reduces TAC levels globally (Alternative 2) fails to reduce TAC enough to affect the rate of decline in Steller sea lions.

Response: NMFS has opined that no option would result in positive population growth for SSLs during the next seven years.

Comment 31: There is no explanation of the "pattern of dispersal of fishing vessels" in areas outside 20 nm. There is no discussion of the edge effect or an explanation of why it is not an issue for the zonal approach. If the "edge" has been moved inside CH to within 10 nm of rookeries and haulouts, why is there no consideration of the effects on prey availability within 10 nm as a result of concentrated trawling in the 10-20 nm zone.

Response: Based on the best available information, NMFS has determined that areas from 0-10 nm from shore are the most important to foraging Steller sea lions. At this time there is no information to determine the edge effects of fishing adjacent to this zone. Ongoing research on migration patterns of Steller sea lion prey species, as described in section 3.7 of the Biological Opinion may allow for this type of analysis and discussion in the future.

The commenter may also be interested in following the progress on one of NMFS Alaska Fisheries Science Center's research projects designed to measure the effects of fishing on the distribution and abundance of walleye pollock on the east side of Kodiak Island. It is taking place near Chiniak Gully off Kodiak Island. Survey design calls for comparable treatment (fished) and control (unfished) sites.

Comment 32: The method for deriving the projected Steller sea lion population trend under Alternative 2 is not disclosed and appears to be arbitrary: The Council's Steller sea lion RPA committee provided analysis that indicated Alternative 2 would result in positive growth rates of 0.7 percent per year. The draft SEIS assumes a figure of -1.4 to -2.3 percent. This assumption is a poor basis for determining that Alternative 2 will result in only marginally less intensity of effects than the other alternatives.

Response: The analysis projects that Alternative 2 results in marginally less intensity of fishery effects; this level of effect translated into a change in the observed population of 3%-4%. The resultant calculated change of the intrinsic rate of increase (r) would be -2.3% and -1.4%, respectively. What this means is that the decline would continue but at a much slower rate (even with an observed increase in the population of 3-4%). It would require at least a 6% increase in the observed population before the population becomes stable (e.g., 0.5% rate of increase). These values are calculated based on population trends over the past decade. It was the opinion of the analysts that Alternative 2 would result in marginally less intense effects. NMFS has received no data or arguments to the contrary to alter the opinion of its analysts.

Comment 33: The SEIS misrepresents and distorts the limited Steller sea lion food habits data from earlier decades, making sloppy generalizations about Steller sea lion prey consumption that are not supported by the data.

Response: NMFS disagrees. While some disagreements among researchers may exist on specific aspects of specific research, we have used the best available information to draw reasoned conclusions. Complete agreement on interpretation of data as complex as these is unlikely in the near term.

Theme 3. Interpretation of the effects of the alternatives on marine habitat and essential fish habitat.

Comment 34: Bottom contact with fishing gear for the fisheries of interest occur within the general depth range where natural disturbances affect EFH. However, many of the studies cited are from the effects of fishing in much deeper waters. These studies may be inappropriate for describing the potential effects of the above fisheries.

Response: The studies cited in the review represent a wide range of fishing conditions and do not focus only on deep water examples. The discussion in Section 3.8 has been further expanded to better relate the outside studies to Alaska fishing practices.

Comment 35: Most of the studies cited concerning the effects of trawl gear on EFH involved potentially overfished stocks. This may not be relevant to the fisheries in question since they are managed in a precautionary manner. It may be difficult to discern habitat effects of fishing for fisheries that are managed in a precautionary manner since fishing levels would be adjusted downward if stocks decrease, which would simultaneously reduce fishing effects on EFH.

Response: Overfished stocks may make EFH effects more detectable at the population level, but few of the studies cited operate at that level. Although the comment may be valid for any studies that directly tie stock reduction to habitat degradation, most studies describe mechanisms for habitat effects that are not dependant on fish stock condition. Precautionary stock management may mitigate to some extent against EFH impacts. Downward reductions in stock levels, however, will result in lower catch per unit effort. Reductions in TAC, therefore, will not necessarily result in proportionate reductions in fishing effort.

Comment 36: Many of the studies cited concerning the effects of fishing on EFH may not be relevant to areas off Alaska because fishing intensity is lower.

Response: The intensity of trawling is one factor considered among many, including differences in gear type, bottom habitat, and species mix. Any of these differences should be considered but do not necessarily invalidate the application of studies from other areas to the Alaska situation.

Comment 37: The SEIS attempts to corroborate the Auster and Langton (1999) review of the general effects of trawling by pointing out supposed similarities in the findings from two empirical studies of trawl effects off Alaska. However, the cited studies are narrow in scope and not applicable to statements concerning the general impact of trawling.

Response: The two studies do not answer the full question of the effects of trawling in Alaska, but they are certainly relevant and tend to corroborate certain of Auster and Langton's conclusions.

Comment 38: The baseline section of the SEIS on habitat effects of fishing should be more relevant to the action being considered. The analysis should have revisited the habitat effects of fishing gear baseline and the available information on the effects of fishing gear for the fisheries in question (pollock, Pacific cod and Atka mackerel). Instead, the analysis is simply a repackaging of the Draft Programmatic SEIS analysis.

Response: The discussion in Section 3.8 has been expanded and updated to clarify the relevance of outside studies to Alaska fishing practices.

Comment 39: The SEIS discussion of the effects of pelagic trawl gear are based solely on anecdotal evidence. An assessment of fishing effects and benefits from gear modification is important, with potentially significant economic effects on the fishing industry. It should not be based on non-scientific, anecdotal data.

Response: NMFS disagrees. The discussions are based on the best information available. References are included throughout the analysis. See chapter 7 for information about citations appearing throughout chapters 1-4, and separate reference lists that appear at the end of each appendix.

Comment 40: Trawling effort for Atka mackerel is described in the SEIS as "intense". However, this is only in relation to other fisheries off Alaska. It would be instructive to provide information on the intensity of trawling off Alaska relative to other areas where the effects of trawling have been studied. This would allow the reader to place in context the likely effects of the fishery compared to other areas where the impacts have been more rigorously studied.

Response: Many factors differentiate Alaska fisheries from others that have been studied. Differences in gear type, bottom habitat, and species mix could influence the outcome of these studies, as could the intensity of trawling. Such differences should be considered but do not necessarily invalidate the application of studies from other areas to the Alaska situation. Ongoing research will hopefully lead to more quantitative methods of describing intensity.

Comment 41: There is an incorrect reference [on page 4-489] to a conditionally significant adverse effect for removal and damage to HAPC by mobile gear. If this conclusion is correct it should be explained in light of the non-pelagic trawl ban.

Response: The reference to use of mobile gear in State managed fisheries was inadvertent. The text has been modified accordingly. The conclusion still remains, as it was based on several factors.

Comment 42: Alternative 2 would shift all trawling outside of SSL critical habitat. This would force trawling into relatively deeper waters. This could cause increased effects on EFH in waters that may be less adapted to natural disturbance. It would also cause fishing to occur in areas where gear effects have occurred to a lesser degree or not at all.

Response: Alternative 2 lowers the TAC for all three species. The TAC would be lowered to 33% of maximum ABC for Atka mackerel, 55% of ABC in the GOA and 72% in the BSAI for cod; 45% of ABC in the GOA, 74.5% in the Bering Sea for pollock. Major concentrations of Atka mackerel occur before the shelf break in the Aleutian Islands and all are being fished, according to fishermen's testimony at Council meetings. The larger aggregations of Pacific cod are also already being targeted. Some displaced effort would occur with increased pressure on fishing grounds, but the environmental benefits of the large no trawl reserves and of lowering overall TACs are expected to be strong enough to earn this alternative a positive rating.

Comment 43: The SEIS expresses concern for the vulnerability of long-lived sessile emergent epifauna, arguing that some of these long-lived invertebrates can be injured or removed by a single gear set. Alternative 2 would move fishing effort into areas that have experienced less fishing effort thereby potentially increasing the impact on these organisms. This possibility should be analyzed.

Response: Fishing effort displaced from areas being closed would increase pressure on the areas that have received less fishing effort, but Alternative 2 includes large reductions in TAC which will in turn reduce effort.

Comment 44: The analysis states that, for the Aleutian Islands, most of the vulnerable sponge and coral substrates are located within Critical Habitat. If the methodology used to identify the locations of these substrates is based on observer data, then the opportunity to observe these invertebrates inside Critical Habitat would be greater since that is where most of the past fishing effort has occurred. Even if trawl survey data were considered, survey stations are mostly inside the 200 meter contour so may understate the relative occurrence of fragile invertebrates outside Critical Habitat.

Response: The methodology involved trawl surveys that were not limited to areas under 200 meters in depth. The survey stations are allocated on the basis of area available within each depth strata.

Comment 45: NMFS, in its comparison between Alternatives 3 and 4, sees no habitat protection benefits from minimizing the shift of fishing to new areas. We think there are many examples of potential EFH benefits in Alternative 4 that were not analyzed.

Response: To whatever extent a particular type of fishing gear effects benthic habitat, any shifts in management will result in relief in some areas and increased pressure in others. The explanation in Section 4.8.4 has been expanded in response to this comment.

Comment 46: Most of the studies cited concerning the effects of trawl gear on EFH involved beam trawls. This may not be relevant to the fisheries in question since they do not involve the less disruptive otter trawl.

Response: More studies on otter trawling have become available since the draft programmatic SEIS was published. Section 3.8 has been expanded to take account of these studies.

Comment 47: NMFS has not yet responded to comments made by MCA concerning EFH and the habitat effects sections of the Draft Programmatic SEIS. These comments, and the research of Dr. Franz Mueter, were also not taken into account during the preparation of this SEIS.

Response: Revisions to this analysis take into account MCA's comments and some of the papers cited by Dr. Mueter. The groundfish Programmatic SEIS is still under preparation.

Comment 48: The SEIS assessment of the impacts of the alternatives on EFH indicate substantial benefits to EFH and Steller sea lion critical habitat under Alternative 2 but the analysis fails to treat the differential impacts of fishing gear explicitly or to justify the negative impacts of trawling in critical habitat under Alternative 4.

Response: The explanation of differential impacts of fishing gear in Section 3.8 has been expanded drawing from international literature but also focusing on literature applicable to Alaska. The negative impacts of trawling to EFH from implementing alternative 4 are likely to be intermediate between alternatives 1 or 5, which are less protective, and 2 or 3, which are more protective.

Comment 49: The SEIS does not give sufficient credence to the possibility that trawling does not have a significant adverse effect of EFH or that the effect of trawling varies greatly depending on the type of trawl gear, depth, substrate type, degree of natural disturbance, fishing intensity and other factors. [comment letter 793 gives several citations].

Response: While some disagreements among researchers may exist on specific aspects of specific research, we have attempted to use the best available information to draw reasoned conclusions. Complete agreement on interpretation of data as complex as these is unlikely in the near term.

Comment 50: The SEIS fails to adequately describe the various benthic habitats that exist inside and outside the affected area. It lacks a species by species description of benthic invertebrates commonly found in the area or a description of the types of EFH found in the area.

Response: Descriptions of benthic habitat and species by species habitat requirements descriptions are available in the draft Programmatic SEIS and in the environmental analysis that was prepared to inform the five fishery management plans' EFH amendments. For more information see the website at <http://www.fakr.noaa.gov/habitat/efh.htm>. It incorporates the EFH information from printed sources, and allows data queries.

Comment 51: The SEIS fails to analyze the effects of the various alternatives on specific EFHs occurring within the affected environment. Rather, the analysis focuses solely on HAPC areas.

Response: EFH off Alaska was defined as a general distribution for a species' life stage, for all information levels and under all stock conditions. Given the broad definition of EFH, identification of Habitat Areas of Particular Concern (HAPCs) has been undertaken but not completed. HAPCs are areas (such as pinnacles) or types of habitat (such as corals and other living substrate used for shelter) that may be especially important or vulnerable, and has emphasized identifying and protecting such areas and types of habitat.

Comment 52: Section 3.8.4 should be expanded to explain the effects of pot gear on EFH. It should be made clear that pots are heavy (500-700 lbs.), hauled under way, may drag along the bottom for an undetermined distance and are frequently lost.

Response: The pot section under "gear effects" in Section 3.8 has been expanded and now includes some material on pots in a new subsection on gear used in Alaska.

Comment 53: The observations of High (1998) are uncorroborated and untested grey literature they should be removed from the SEIS.

Response: NMFS disagrees. While peer reviewed research is obviously of greater value in any analysis, all existing information relevant to the issue is reviewed and included as appropriate.

Comment 54: The analysis states that bycatch of benthic epifauna by longline gear is substantial. Table 4.8-1 indicates an average annual rate of coral bycatch of 1,482 kg/yr. Most of this is small branches and is taken over an area of 200,000 square miles. We disagree that this constitutes substantial bycatch.

Response: In terms of the regional population of corals, NMFS agrees with the commenter, and has clarified the explanation.

Comment 55: The SEIS states that the effect of trawls that come in contact with the bottom have never been evaluated scientifically but then states that "it can be expected that when pelagic gear contacts the seafloor it will have similar impacts to standard on-bottom gear (page 3-162). No explanation or argument to defend this baseless assumption is offered.

Response: Section 3.8 has been revised and the discussion of the effects of pelagic trawl gear expanded.

Comment 56: The SEIS asserts that midwater pollock nets are fished in contact with the seafloor "more often than not" (page 3-162). This is based on unsubstantiated anecdotal evidence.

Response: The discussion in Section 3.8 has been expanded to include the incentives for and likely effects of fishing pelagic gear in contact with the seafloor.

Comment 57: No studies of the impact of longline gear on benthic epifauna have been conducted in Alaska and studies conducted elsewhere may not be relevant.

Response: NMFS agrees that the impacts of longline gear on the benthic environment are not well known and that this is especially true off Alaska. The best available data has been included in this analysis and, where appropriate, limitations associated with those data are discussed.

Comment 58: The analysis [in section 4.1] makes false statements.

Response: NMFS disagrees. While some disagreements among researchers may exist on specific aspects of specific research, the best available information has been drawn on for reasoned conclusions. Complete agreement on interpretation of data as complex as these is unlikely in the near term.

Comment 59: The section on the effects of the alternatives on marine benthic habitat relies on a flawed baseline description of fishing effects, from outside studies. We believe that the determinations based on this flawed baseline are inappropriate. We also believe that had the establishment of a baseline acknowledged the specifics of the three fisheries in question a far different set of conclusions about the alternatives may have resulted.

Response: The discussion in Section 3.8 has been expanded to better relate the outside studies to Alaska fishing practices. Although some disagreement exists between them, all the review studies have drawn some conclusions about the potential deleterious effects of trawling, and most advocate a precautionary approach.

Comment 60: The SEIS bases its discussion of the effects of longline gear on a single study (High 1987) that is empirical and unrelated to fishing activities off Alaska. The health of the three groundfish stocks of concern for this SEIS does not suggest that longline gear is having any deleterious effects on fish habitat.

Response: NMFS agrees that the degree to which longline gear may impact the environment is unknown. Many kinds of information that are needed to make such an assessment are unavailable. The text has been augmented to clarify that. In such a case, it is important to collect what reliable information is available to better understand the possibilities. The High (1998) reference, while not peer reviewed, includes observations by an experienced scientist that are relevant to the possibility and potential mechanisms for longline effects on benthic habitats. As such, they provide some context for the bycatch observations in the observer data. NMFS has clarified the section on observer data and included some of the commenter's points.

Theme 4. Stock assessments and impacts on resources other than Steller sea lions and habitat.

Comment 61: The SEIS states that: "Species level diversity, or the number of species, can be altered if fishing essentially removes a species from the system" This insinuates that the fisheries managed off Alaska have been managed in a manner that results in such occurrences. This should be removed from the text.

Response: NMFS disagrees. The discussion is a general one and is not meant to be read as only applicable to Alaskan fisheries or to imply that fisheries occurring in waters off Alaska have had that result.

Comment 62: Alternative 4 creates a very complex fisheries management scheme but, other than requiring VMS, does very little to ensure that it is enforced. Given the size of the quotas, NMFS should require higher levels of observer coverage and ensure that all catch is weighed. Given the sophistication of the fisheries, it is ridiculous that scales are not required on all factory trawlers.

Response: NMFS agrees that the complexity of fisheries management in the North Pacific is increasing and that catch-monitoring must evolve as well. NMFS notes that catcher/processors and motherships engaged in the pollock fishery are required to weigh all catch. Further, NMFS and the Council are proposing to

require that shoreplants which take delivery of AFA pollock must provide for enhanced catch weighing and monitoring. Further, NMFS will be assessing the changes to the Atka mackerel fishery to determine whether the existing provisions for catch monitoring are sufficient. At that time NMFS will determine whether additional observer coverage, observer sampling stations or catch weighing should be required.

NMFS acknowledges that catch weighing is currently not required on all catcher/processors. That issue, however, is beyond the scope of the current analysis.

Comment 63: All of the alternatives to protect Steller sea lions have significant negative impacts on northern fur seals. These alternatives are unacceptable if they trade negative impacts on Steller sea lions for negative impacts on a depleted species.

Response: All alternatives were judged to have conditionally significant effects on northern fur seals relative to the harvest of prey species and the spatial/temporal concentration of the fishery. These determinations were based on available data suggesting that critical habitat protections for Steller sea lions as well as the increased duration of the summer/fall Bering Sea pollock fishery may have shifted the location of the fishery northward into northern fur seal foraging habitat. These observations indicate that protective measures directed solely at Steller sea lion conservation may have negative impacts on other species within the Bering Sea community.

NMFS will continue to assess these potential impacts, especially on declining populations of protected species such as northern fur seals, and initiate actions to mitigate such impacts if deemed necessary.

Comment 64: The SEIS states: "Introduction of nonnative species may occur through the emptying of ballast water in ships from other regions." This is not a fishing effect and does not belong here.

Response: NMFS disagrees. Given that portions of the fishing fleet may travel to other regions and may pump ballast water originating from other regions, it is a possible mechanism of non-native species introduction. No documentation of such an introduction by a fishing vessel exists to our knowledge, however, such documentation is not something we are set up to collect.

Comment 65: When comparing population trends and foraging locations for northern fur seals around St. Paul and St. George Islands, there is an indication that the no trawl protection zones around St. Paul may have contributed to population stabilization. There is also evidence that the protection zone around St. Paul may have resulted in a reduction of trawl associated debris.

Response: While these conservation areas are likely to offer some degree of protection to foraging fur seals, no-trawl zones around St. Paul and St. George islands exclude trawling from areas that are used less intensively by lactating fur seals during summer and fall. Foraging studies indicate that northern fur seal females from both islands forage extensively at distances greater than 81 nm. The Pribilof Islands Conservation Area is located primarily in the foraging habitat of females from northeast St. Paul Island and the boundary is approximately 65 nm at the most distant point from Northeast Pt. on St. Paul Island. The majority of pollock trawling occurs in the outer shelf domain in the foraging habitat of females from southwest St. Paul and St. George islands. Unfortunately, during the 1990s, St. Paul Island pup production has been assessed in alternate years on a sub-sample of rookeries making it difficult to determine whether habitat protection in specific foraging areas has been beneficial to specific sub-populations. While nearshore no trawl protection zones may prevent marine debris from becoming entrained in the circulation pattern around the Pribilof islands, there is no direct evidence to link entanglement to population trends based on the distribution of fisheries relative to protected areas.

Comment 66: We believe that a more balanced fishery management approach (that would afford greater protection to northern fur seals) should include an exclusive fishing area around both of the Pribilof Islands for those fishermen who are willing to reduce bycatch of non-target species, comply with MARPOL Annex V and are willing to have a portion of the catch directly fund environmental monitoring and research programs in the area.

Response: This comment is beyond the scope of this analysis. It is, however, important to note that care should be taken in establishing exclusive fishing areas that may concentrate deleterious effects. This is especially relevant in the case of northern fur seals, given the large distances from the Pribilof Islands over which they forage during the breeding season. Additionally, all fishermen are required to comply with MARPOL Annex V and bycatch limits on non-target species.

Comment 67: Information regarding studies of entanglement of northern fur seals in marine fishing debris is not included in the evaluation of any of the alternatives. [comment letter 761 gives citation]. This information should be included and used in the evaluation of direct effects of the alternatives on fur seals.

Response: The commenter is correct in stating that information on northern fur seal entanglement during the 1990's was not cited in the document. Section 4.1.4.1, however, has a summary statement regarding the decline in the incidence of entanglement in the 1990s and the shift in the occurrence of polypropylene packing bands relative to trawl net fragments reflecting the general conclusions of these studies.

Comment 68: Alternative 2 would increase the spatial and temporal interactions of the groundfish fisheries with northern fur seals by redistributing fishing effort.

Response: Comment noted. This possibility has been noted in the analysis.

Comment 69: The cumulative effects analysis fails to discuss whether all impacts deemed insignificant have a synergistic and negative long term effect.

Response: NMFS disagrees. The cumulative effects analysis has addressed reasonably foreseeable adverse cumulative effects that are both significant and insignificant in nature.

Comment 70: NMFS is able to "explain away" cumulative impacts by comparing the alternatives to a 1997-1998 baseline. This gives the false impression that the preferred alternative does not have large, negative, long-term effects.

Response: NMFS disagrees. On a resource by resource basis, the cumulative effects analysis looked past effects and baseline that in some cases went much further back than 1997-1998. Long-term adverse cumulative effects are addressed through evaluating past lingering effects in the cumulative effects.

Comment 71: The seasonal apportionments described in Alternative 2 would increase bycatch of halibut and incidental take of short-tailed albatross.

Response: NMFS agrees that any reapportionment of Pacific cod TAC into the summer months, or from trawl to hook and line gear, has the potential to increase incidental take of short-tailed albatross. NMFS notes, however, that this would be mitigated by the revisions to seabird avoidance measures currently being considered. NMFS also agrees that such reapportionments could increase halibut bycatch or, to the extent that the cod fishery is limited by available halibut prohibited species catch limits, reduce the opportunity to harvest available amounts of cod.

Comment 72: Alternative 4 includes a 60/40 seasonal split for GOA Pacific cod. Under this plan, the fleet will be forced to fish in non-traditional areas on un-aggregated stocks at unusual times of year. This will result in higher bycatch of halibut, increase total effort and will fail to disperse the fleet temporally and spatially.

Response: NMFS agrees that in the second season Pacific cod will be less aggregated and potentially increase the level of effort by the fleet to harvest the allocation. Halibut bycatch estimates based on an average over 1998 and 1999 indicates that bycatch rates will increase by 1% under alternative 4 over the base line alternative. Overall, the amount of halibut bycatch will continue to be limited by the halibut PSC caps recommended by the Council. Seasonal apportionment of TAC will ensure temporal distribution of the GOA Pacific cod harvest. It is likely that as portions of the GOA critical habitat remain closed to fishing and the stocks become less aggregated, the fleet will have to disperse over a larger area providing spatial dispersion. NMFS has also established a number of open areas in traditional fishing grounds near King Cove, Sand Point, Kodiak and Seward for vessels using non-trawl gear.

Comment 73: The SEIS criteria for determining the significance of alternatives on pinnipeds and sea otters fail to include consideration of the benthic habitat effects of fishing, despite the clear reliance of many pinnipeds as well as sea otters on epibenthic prey species, and the clear potential for serious alterations of seabed habitat from trawling activity.

Response: Sea otters do depend on epibenthic prey species. Of the pinnipeds, only walrus and bearded seal exhibit dependence on the epibenthic habitat for prey resources. In this regard, NMFS did consider the possible effect of trawling activity in the action area on these predators and concluded that it was insignificant. The action areas for trawl fisheries rarely overlap with the occurrence of bearded seals, which only occur in the southeastern Bering Sea during winter as they migrate south and north with the ice edge. Walrus and sea otter rely more on benthic prey, but the trawl fisheries for pollock and cod in areas where they overlap rarely contacts the sea bed. The trawls typically catch these fish in mid water. Walrus do not occur in the Gulf of Alaska and sea otters rarely occur off shore where trawling occurs. The fishery for Atka mackerel in the Aleutian Islands occurs over rocky terrain that could catch and damage trawl nets if contacted; the fishery, therefore, takes extra caution to fish above the bottom to keep from damaging their nets. Consequently we think there is very little, if any, degradation of habitat with the Atka mackerel fishery.

Comment 74: The global TAC reductions envisioned by Alternative 2 are unnecessary because most Steller sea lion locations are within 10 nm of land.

Response: Alternatives 2, 3, and 4 include similar, though not identical, harvest control rules. While it is unlikely that Atka mackerel, pollock or Pacific cod spawning stocks will fall below 20% of the unfished level, the provision to formally prohibit directed fishing for these stocks does preserve the prey resource for top trophic level foragers should such an event occur. The spatial distribution of Steller sea lion foraging does not affect the need for the provision to preserve prey resources when stocks decline. Atka mackerel, pollock and Pacific cod occupy broad distributions inside and outside of 10 nm of land. The control rule is one of several actions that, in concert, reduce the likelihood of competition between sea lions and groundfish fisheries.

Comment 75: The global TAC reductions envisioned by Alternative 2 are unnecessary because the current TAC setting process is already precautionary and has a proven track record of preventing overfishing.

Response: Alternatives 3 and 4 include a provision to stop harvest of Atka mackerel, pollock and Pacific cod if the female spawning stock biomass drops below 20% of the unfished level. If recruitment variability continues to follow the pattern observed since 1977, it is unlikely that this provision will be implemented. The most recent estimate (2001) of stock status shows the Aleutian Island Atka mackerel, Eastern Bering Sea

and Gulf of Alaska pollock, and BSAI and GOA Pacific cod stocks are above the $B_{20\%}$ level and are likely to remain above this level in the near future.

Alternative 1, the no action alternative contains the tier 3 harvest control rule adopted by FMP amendments 56/56 which is precautionary in that the maximum permissible fishing mortality rates are formally reduced when the stock falls below $B_{40\%}$. In addition, stock assessment authors often recommend fishing mortality rates that are below the maximum permissible level. These constraints are intended to accelerate the recovery of the spawning stock biomass when stock levels are low.

Although the harvest control rule adopted in Amendment 56 is precautionary, it is important to note that the proposed harvest control rule does provide an explicit policy to stop directed fishing if the female spawning stock biomass dropped below to the $B_{20\%}$ level. The harvest control rule would stop directed fishing before the stock was declared overfished. Under current harvest guidelines (Alternative 1) directed fishing would not necessarily be stopped if the stock was in an overfished condition. NMFS is required to develop a rebuilding plan if the stock is overfished, but rebuilding plans do not necessarily prohibit directed fishing. Thus, the proposed harvest control rule provides added protection to the stock and sea lion prey base if the spawning stock biomass exhibits a severe decline.

Comment 76: The discussion of ecosystem effects is illegally broad, as it characterizes fishing effects as removing only 1 percent of total system biomass. By ignoring spatial and temporal variation in the removal, the analysis fails to provide useable information to decision makers.

Response: The analysis contains more than just this one estimation of harvest removals per total system biomass. Several levels of information useful to characterize spatial and temporal removals are provided throughout the analysis. See Table 4.1-4 and all the tables in section 4.2. These data were factored into the analysis. The statement the commenter quotes: "Total catch biomass (including non-groundfish removals) as a percentage of total system biomass (excluding dead organic material, known as detritus) was estimated to be 1%, a small proportion of total system biomass." from Section 4.9, is none-the-less accurate and NMFS stands by it.

Comment 77: The SEIS fails to provide an integrated, adequate analysis of the direct, indirect and cumulative effects of the fisheries on Bering Sea, Aleutian Islands and Gulf of Alaska ecosystems.

Response: NMFS disagrees. The analysis is as integrated and adequate as any that has been prepared. Additional research and interpretation of information is ongoing and future effects analyses may contain improvements, however, this analysis adequately informs decision makers of the information available and interpretations of impacts that will result from the proposed action.

Comment 78: The information on historical patterns of trawling in Alaska is central to a cumulative effects analysis. But it not integrated into the description of what information is lacking or into the analysis of cumulative effects and their significance.

Response: NMFS disagrees. Information on historical patterns of trawling in Alaska were known to the preparers of this analysis and the unknown and unavailable information was factored into significance determinations.

Theme 5. Socio-economic effects on the fishing industry and coastal communities.

Comment 79: Although the VMS program has been successful, VMS units can fail. NMFS should make allowance for vessels to continue fishing should their VMS unit fail to operate.

Response: The details associated with VMS equipment and operational requirements will be considered at the time of rulemaking. However, when the requirements for VMS in the Atka mackerel fishery were implemented, NMFS determined that policy allowing vessels to continue to fish when their VMS units were non-functional would unnecessarily complicate the enforcement program. NMFS further noted that the cost of a VMS unit is quite low compared to the overall gross revenues in the fishery and that vessel owners could choose to provide a backup unit if they desired.

Comment 80: The small boat fleet has minimal impact on Steller sea lions. Instead, population declines are the result of disease and predation by orcas.

Response: Because the small boat fleet conducts a disproportionate share of its operation in areas of importance to Steller sea lions, NMFS is unable to say that the small boat fleet has a more minimal impact on sea lions than does the large boat fleet. The purpose of this analysis was to develop alternatives for the Pacific cod, Atka mackerel and pollock fisheries that do not jeopardize the continued existence of the Steller sea lion or adversely modify their critical habitat. However, NMFS recognizes the importance of the small boat fleet and has attempted to craft alternatives accordingly.

Comment 81: In Alternative 4, the stand down periods after the A and C pollock seasons in the GOA should be eliminated. There should only be a stand down after the B and D seasons [rationale set forth in comment letter #6].

Response: NMFS acknowledges that the choice of alternatives could have allocational ramifications. These issues will have to be addressed individually through future Council processes. The Council has indicated its intent to assess additional management measures intended to further mitigate the effects of the preferred alternative on coastal communities and small boat fleets. Consistent with ESA mandates to protect Steller sea lions these additional measures, including possible adjustments to GOA seasonal apportionment and dates, are scheduled to be initially discussed at the Council's February 2002 meeting.

Comment 82: We agree with the conclusion of the Biological Opinion and the SEIS on the need to rationalize groundfish fisheries in the GOA.

Response: Fishery rationalization offers new possibilities for the effective management of fisheries in the GOA as well as the BSAI. However any fisheries rationalization scheme needs to be accompanied by safeguards to protect the environment, prevent fraud and ensure equitable distribution of the resource.

Comment 83: The treatment of the impact of the alternatives on Akutan, King Cove and Sand Point contained in Appendix F is inadequate. The region is extremely dependent on the groundfish fishery and the alternatives will have potentially profound impacts on these communities.

Response: This comment (C-0025 Aleutians East Borough) is specifically directed toward the information contained in Appendix F, but concerned, in large part, social impact analysis results. Appendix F contains only existing conditions profiles of the communities most engaged in, and dependent upon, the Alaska groundfish fishery, not the social impact assessment itself. The treatment of social impacts by alternative and broken out by region is found in Section 4.12.2 of the main body of the SEIS. This distinction has been clarified by re-titling Appendix F and by adding a more explicit cross-reference in the introduction to the appendix.

In general, the information contained in Appendix F is intended to supplement the regional existing conditions information contained in Section 3.12.2 of the SEIS by describing the groundfish social or sociocultural context at the community level in detail sufficient to illustrate the range of types of engagement in, and dependence upon, the groundfish fishery. Quantitative description of baseline engagement or dependence on a regional basis is found in the discussion of Alternative 1 in Section 4.12.2 of the SEIS. This information includes data for 21 socioeconomic variables or indicators, encompassing harvesting and processing values, employment, and payments to labor, among others. Table 4.12.2 presents baseline information for the Alaska Peninsula/Aleutian Islands region, of which the Aleutians East Borough is a part (along with the Aleutians West Census Area). This same level of quantitative description (e.g., total catcher vessel payments to labor, total shorebased processed value, etc.) cannot be presented at community level or even the borough level, in the case of the Aleutians East Borough, due to confidentiality restrictions associated with reporting data from individual or a small group of entities. For example, there are only three major groundfish processing plants in the Aleutians East Borough, located in Akutan, King Cove, and Sand Point, and these three plants are owned by only two entities. Therefore neither state nor federal data aggregation thresholds for the release of data can be met.

This being stated, however, the information contained in Section 3.12.2, Section 4.12.2, and Appendix F taken together provides a comprehensive treatment of the likely differential distribution of social impacts resulting from the proposed alternatives. The analysis contained in Section 4.12.2.2.1 does conclude that Alternative 2, given the relative dependency upon the groundfish fishery in general, and the pollock and Pacific cod components of the fishery in particular, would result in significant impacts to those communities in the Alaska Peninsula/Aleutian Islands region engaged in the fishery. The conclusion is specifically reached that this:

"would have profound effects upon local communities with large groundfish processing plants - Unalaska, Akutan, King Cove, and Sand Point. Each of these communities would be expected to experience impacts in the fisheries related sector of the economy in particular, but impacts would be felt in other sectors of the local economy as well. The degree to which other sectors would decline depends upon the relative level of integration of the processing and harvesting sectors with the rest of the community economy and the diversity within the fisheries specific portion of the economy. Fisheries related local government revenues would also decline significantly, with the specific amount depending on the local tax structure."

Quantitative description of impacts for the Alaska Peninsula/Aleutian Islands region may be found in Tables 4.12-11 through 4.12-13 for Alternative 2 and Tables 4.12-32 through 4.12-34 for Alternative 4. These tables provide output values for all 21 socioeconomic indicators, along with the amount and percent change from baseline conditions for all indicators. The percent change information (Tables 4.12-13 and 4.12-34) is intended to be useful as an indicator of the direction and magnitude of change, and should be useful in seeing at a glance the types and level of impacts the borough as well as the region as a whole would experience under these alternatives. The impacts to the borough are not 'lost' in a much larger regional analysis because of (1) the methodology employed, which focuses on groundfish entities (harvesters, processors, and catcher-processors) first and then their ties to the regions to establish the engagement/dependency context rather than the other way around, and (2) the prominent role the Aleutians East Borough component of the fishery plays in the overall region.

In response to the data issues raised in this comment letter, additional information on the Aleutians East Borough fishery related tax revenues and the importance of the fishery to the Aleutians East Borough has

been added to Section 1.0 of Appendix F(1). Additionally, language noting the fiscal links between borough communities has been added to Section 3.12.2.3 and language noting the resulting distribution of impacts has been added to Section 4.12.2.2.1. Cumulative fishery impacts being experienced in borough communities, while noted in Appendix F and discussed in detail in the cumulative impacts discussion (Section 4.13.13) have now been noted in Section 4.12.2.2.1 as well. The additional material the comment letter requested to be included in the analysis is now referenced in Appendix F(1), and is included in whole in the public comments section of this SEIS.

Comment 84: The small boat fleet in the Aleutians (under 60 ft, no processing) is small, the cleanest of all the fisheries, and has minimal impact on Steller sea lions.

Response: NMFS agrees that the small boat fleet in the Aleutians is responsible for a comparatively small percentage of the catch.

Comment 85: Many of the Tables and Figures for the social impact assessment (Appendix F1) represent outdated information. The Kodiak Chamber of Commerce is providing revised information reflecting information current through 2000 or 2001. [see comment letter 762 for actual suggested changes]

Response: Thank you. Changes to the analysis similar to those suggested have been made. The suggested change to Table 2.1-8 in Appendix F(1) has been modified from the figures provided in the comment due to apparent carry over of 1999 value data into the year 2000 row. Based on a follow-up telephone conversation with Debora King, Economic Development Specialist with the Kodiak Chamber of Commerce, suggested replacement Table 2.1-9 of Appendix F(1) was modified to clarify and account for rounding errors and the suppression of confidential data, and to allow column totals to sum properly.

Comment 86: The zonal approach for Pacific cod as described under Alternative 2 makes no distinction between the fisheries in the BSAI and the GOA. However, the BSAI Pacific cod TAC is allocated between gear types and the GOA cod TAC is not. Further, most cod fishing trips in the BSAI are longer, which precludes fishing by non-freezer boats.

Response: NMFS acknowledges that the choice of alternatives could have allocation ramifications. These issues would have to be addressed individually through future Council processes.

Comment 87: The small boat fleet is a valuable part of the lifeline in rural Aleutian communities and they should receive priority over the large boat fleet.

Response: The purpose of this analysis was to develop alternatives for the Pacific cod, Atka mackerel and pollock fisheries that do not jeopardize the continued existence of the Steller sea lion or adversely modify their critical habitat. If more than one alternative accomplishes this goal, a secondary purpose was to minimize impacts on the various sectors of the fishing industry and the associated coastal communities. The importance of the small boat fleet has been recognized and alternatives have been crafted accordingly. The Council also has indicated its intent to assess in the near future potential adjustments to Steller sea lion protection measures to provide further relief to the small boat fleet and coastal communities.

Comment 88: Alternative 2 would cause a greater portion of the Pacific cod TAC to be taken during the summer when flesh quality is lower. This could cause a loss of ex-vessel value and a potential loss of market.

Response: NMFS agrees. Section 1.3.3.2 of the RIR states, "Cod fishermen report equivalent reductions in flesh quality, post-spawning, and accompanying dramatically diminished value. Both species [pollock and Pacific cod] reportedly 'improve' in quality (and value), the latter into the second half of the year they are taken. Therefore, any action which displaced catch from periods of relatively high fish quality (e.g., January through perhaps March), to periods where the average quality is lower (e.g., June and July), would impose costs."

Comment 89: The zonal approach to cod in Alternative 2 differentiates between processor and non-processor longliners. No rationale is provided as to what benefit this distinction provides to Steller sea lions.

Response: NMFS has attempted to develop alternatives that provide maximum benefit to the human environment. Though issues surrounding Steller sea lions were a primary focus of the analysis, the alternatives seek to mitigate other social and environmental impacts. Thus, though it is possible that processing mode has no impact on Steller sea lions, it is clear that it has an impact on the wider socio-economic structure of the fishery.

Comment 90: Alternative 2 is the most complex for management and enforcement, particularly for fixed gear vessels engaged in the Pacific cod fishery.

Response: NMFS acknowledges that some of the alternatives will create additional challenges for management and enforcement. Interventions to provide sufficient quality data to effectively manage the fisheries would clearly be needed. Some, such as VMS, have been discussed in this analysis. Others, such as increased use of observers, and enhanced catch monitoring and measuring will be considered as the need arises.

Theme 6. Impacts of the alternatives on State managed fisheries.

Comment 91: ADF&G scientists contest the statement that state-managed pollock and cod fisheries have the ability to reduce the abundance of prey and disrupt prey fields for foraging Steller sea lions. This is an opinion with no supporting evidence.

Response: The NMFS 2001 Biological Opinion (Appendix A of this SEIS) discusses possible direct and indirect cumulative effects of state managed fisheries on Steller sea lions in section 6.2. Earlier studies by the Alaska Steller Sea Lion Restoration Team (ADF&G, August 2001), NMFS (November 2000a), and ADF&G (Kruse et al October, 2000) have also discussed possible effects of state managed fisheries on Steller sea lions.

Comment 92: The SEIS reports that effects "have been identified for state-managed fisheries such as herring and salmon, through removal of important prey species of the Steller sea lion. (page 4-376). We dispute the validity of that statement.

Response: This subject is, to a great extent, outside the scope of this analysis. The section was simply pointing the reader to a discussion of the subject in the Draft Programmatic SEIS.

Comment 93: The SEIS fails to include sufficient information about predominant fishing gears and practices occurring in the fisheries.

Response: CEQ regulations implementing NEPA do not require that an EIS contain encyclopedic level descriptions of all that the reader may need to know about fishing gears used off Alaska. The following references would be helpful for many readers: 50 CFR 679.2 for definitions of fishing terms beyond those normally found in textbooks; the NMFS Alaska Region Website (<http://www.fakr.noaa.gov/>), the NPFMC website <http://www.fakr.noaa.gov/npfmc/>) and the numerous publications in the NOAA Technical Memorandum series.

Comment 94: (page 4-550 - 4-551). This section needs to be beefed up to address measures taken at the October, 2001 Council meeting to address the Dutch Harbor exclusion adopted by the Council, and a consideration of the Chignik exemption if the Board considers adjusting the state water portion of Option 1 during the state water Pacific cod fishery. Both of these exclusions were listed in the biological opinion as not greatly changing the jeopardy bar.

Response: Thank you. Additional material has been added to section 4.14.

Comment 95: In section 4.10, NMFS makes the statement that: "if it becomes known that a state fishery is reasonably likely to have a significant negative effect on Steller sea lion foraging, ADF&G intends to pursue action to appropriately modify the fishery". We believe that this is a presumptive statement with no supportive evidence since we do not believe that state fisheries are likely to have a negative effect on Steller sea lion foraging.

Response: The intent of the statement was not to implicate state-managed fisheries, only to point the reader towards possible remedies in the event that such impacts did occur.

Comment 96: Numerous technical comments were made by the State of Alaska on section 3.10 and 4.10.

Response: Thank you, for the close reading and careful editing. The sections have been changed to reflect the comments.

Comment 97: The SEIS should not use the term "state managed fishery" to describe the non-parallel cod fishery that occurs in state waters. State regulations use the term "state waters season".

Response: NMFS agrees, and has changed the phrase accordingly.

Theme 7. Comments concerning the analytical structure of this analysis.

Comment 98: The telemetry data should be used to track the activity of individual animals over time within the context of the bathymetry of their home range and the fisheries that might occur in those areas. [Comment letter 0217 presents several examples of the tracks of individual Steller sea lions and how they related to fishing activity].

Response: NMFS agrees. This type of analysis is part of an ongoing research project within NMFS and ADF&G. We note that examples are on the NMFS/NMML webpages. These provide an example of the type of analysis using bathymetry and location/dive data suggested by the commenter.

Comment 99: NMFS should re-analyze the telemetry data. In addition to partitioning the hits inside/outside 10 nm, the hits should also be partitioned inside/outside the continental shelf break (>1000 fathoms). There is almost no fishing for cod or pollock beyond the shelf, but a large percentage of the Steller sea lion telemetry hits beyond 10 nm were also off the shelf, especially during the summer [comment letter 217 presents a brief re-analysis of the telemetry data to demonstrate this].

Response: NMFS agrees that additional analysis of the telemetry data are warranted. NMFS has been analyzing all the telemetry data regardless of where the hits are in relation to proposed management schemes. The recent analysis pertaining to the 10/20 nm bins was at the specific request of the RPA committee but includes only a small portion of the overall effort of NMFS and ADF&G in their analysis of the telemetry data. Efforts are underway to try and match Steller sea lion telemetry data in time and space with oceanographic characteristics, with commercial catch data, and fish assessment data. Such analyses are complex and extremely time consuming. Results will be presented to the scientific community when appropriate.

Comment 100: The SEIS Alternative 4 "Global Control Rule" fails to avoid jeopardy and adverse modification at the global scale of competitive interaction, resulting from the cumulative effect of the F40% MSA based harvest policy.

Response: NMFS has determined, based on the available scientific information, including the most recent telemetry analysis and food habits data, that Alternative 4 will successfully eliminate competition between the subject fisheries and Steller sea lions in such a way as to avoid jeopardy and adverse modification of critical habitat. This determination is documented in the Biological Opinion dated October 19, 2001.

Comment 101: The analysis adopts the mean daily average removals of the five alternatives added together as the reference point against which all of the alternatives are compared, yet no justification for why this reference point is appropriate is provided.

Response: The analysis (section 4.1) has been revised.

Comment 102: The SEIS fails to analyze the operative assumptions of the FMP harvest policy, including the theory of surplus production, or explain how these assumptions are consistent with needs of Steller sea lions and other consumers in the ecosystem.

Response: Using CEQ NEPA regulations the analysis undertaken was intended to disclose the environmental impacts of the alternatives. The analysis includes discussion of direct effects and their significance, indirect effects and their significance, as well as other requirements of §1502.16. An analysis of the operative assumptions of FMP fish harvest policies are quite beyond the scope of this action. For readers interested in stock assessment and fishery evaluations we recommend the annual groundfish SAFE reports prepared by NMFS Alaska Fishery Science Center, and the textbook *Quantitative Fish Dynamics* by Dr. Terry Quinn.

Comment 103: The analysis repeatedly states that the deviations from mean daily removals are not additive, yet they are arrived at by adding daily catches across areas. Adding the catches is, in effect, adding the deviations. Thus, why it is that the deviations are not additive should be clearly explained.

Response: This analysis (section 4.1) has been revised and the calculation process clarified.

Comment 104: The Biological Opinion, Table 5.3 provides very crude percentages of critical habitat that would be closed under alternative 4. This information is inadequate to characterize the actual area that would be protected under this alternative. The SEIS provides an analysis of areas closed and partially closed to fishing under the alternatives (Table 4.8-2, page 4-240) but fails to analyze seasonal differences. NMFS should combine the format of the Biological Opinion Table 5.3 and the SEIS Table 4.8-2. This same information should be provided for previous pollock RPAs and pre-1999 protective regulations dating back to 1991.

Response: Work is ongoing with these types of area manipulations and presentations. NMFS, the Council, and many of the industry constituents, are investing considerable amounts of their management and research budgets into geographic information system staff and equipment. Among the anticipated products will be descriptions of habitat, how much there is and where it is located. NMFS expects to be able to provide refined area estimates, with defined confidence limits, in the next few years. However, whether these data are known to the nearest 100 square kilometers, or only to the nearest 1000 square kilometers, is not thought to be a factor in our present impact determinations.

Comment 105: The basis for determining significance in the effects analysis is marginal change from the 1998 baseline. Thus, the analysis states that Alternative 4 will have only "marginally less temporal and spatial concentration and similar levels of disturbance as that which occurred in 1998". This then allows the analyst to determine that Alternative 4 will have insignificant effects. However, given that NMFS concluded that fishing under the 1998 regime jeopardized Steller sea lions and adversely modified their critical habitat, it appears that Alternative 4 is only "insignificant" from the viewpoint of an arbitrarily selected 1998 baseline.

Response: NMFS disagrees. Given the scope of the analysis, NMFS took care to choose appropriate baselines and reference points and to apply them consistently.

Comment 106: The SEIS fails to provide any analysis or new information that justifies the 2001 Biological Opinion's approach to critical habitat, which is based on an arbitrary and capricious interpretation of the telemetry data. The final SEIS must discuss and relate the findings of the Council-commissioned review panel to the Draft Biological Opinion's interpretation of the telemetry tracking data, approach to critical habitat and assumption about avoiding jeopardy and adverse modification of critical habitat.

Response: The 2001 Biological Opinion was based on the best available information.

Comment 107: Figure 4.1-6 has no units on the Y axis. The large deviations shown for some months for Alternatives 2 and 4 do not seem possible in a relative sense, given that the areas under the curve show the calculated deviations of the combined BSAI pollock and cod fisheries.

Response: The figure has been revised to indicate Y axis units.

Comment 108: The SEIS fails to analyze the telemetry tracking data or evaluate its interpretation in the Biological Opinion.

Response: NMFS disagrees that there was no analysis of the telemetry data. However, the analysis of these data is ongoing.

Comment 109: NMFS should delete "core question" number 2 from the analysis ("Does the alternative management regime result in fisheries harvest on prey species of particular importance specific to marine mammals, at levels that could compromise foraging success").

Response: The analysis of core question #2 has been extensively revised. See section 4.1.

Comment 110: By comparing the alternatives only to fishing practices occurring in 1999, NMFS fails to provide an adequate baseline. A more appropriate baseline would be a "no fishing alternative".

Response: NMFS disagrees. Given the scope of the analysis, NMFS took care to choose appropriate baselines and reference points and to apply them consistently.

Comment 111: The analysis of impacts is laid out improperly because impacts of the alternatives are discussed resource by resource, rather than alternative by alternative. If a reader wishes to adequately distinguish between the overall effects of alternatives, they must jump back and forth from section to section.

Response: Any organizational scheme involves tradeoffs. NMFS agrees that, for some readers, a layout such as this comment recommends would have been preferable. However, other readers, especially those primarily interested in a single resource, would have found an alternative by alternative-based layout distracting.

Each resource in this analysis is evaluated against a reference point. Questions are crafted to address impacts against the established reference points. The criteria to evaluate the resource against the established reference point are laid out for the particular resources. For the biological and ecological resources, several pages of explanation are provided before determining impacts associated with a particular alternative. If impacts were displayed alternative by alternative, those analytical set up descriptions would either have to be repeated five times so the impact findings are with the explanation of the analysis, or they would have to be set off somewhere separate from the findings. Neither of those arrangements has beneficial organizational qualities. The first would result in five repetitions of the same material, the second would require a lot of flipping back and forth on the reader's part.

Comment 112: The SEIS fails to assess cumulative reductions of prey biomass resulting from the FMP exploitation strategy (F40% proxy for FMSY) at the global scale of competitive interaction as required in Biological Opinion 3.

Response: Stock assessments and surveys are ongoing by the Alaska Fisheries Science Center. Refinements and expansions of the program are occurring all the time. New interpretations of these data are published in annual stock assessment and fisheries evaluation reports and peer reviewed journals. The agency is in compliance with monitoring requirements to the best of our knowledge and fiscal restrictions.

Comment 113: The analysis includes the statement: "average daily fisheries removal rates may be higher or lower than this value" (page 4-6) and then goes on to present results which the above statement renders completely meaningless.

Response: NMFS disagrees that this caveat has a significant effect on the results.

Comment 114: The analysis [in section 4.1] should state clearly that there is no evidence of any localized depletions of pollock or cod in the BSAI and GOA management areas.

Response: NMFS acknowledges that there is insufficient evidence to determine conclusively whether or not localized depletions of these species occur. All relevant research was referenced in the analysis. Further, the Alaska Fisheries Science Center experiment into efficacy of no-trawl zones, as discussed on page 4-20 is designed to increase our knowledge of this. Interpretation of results from that experiment are several years away.

Comment 115: We have conducted an expanded analysis of the telemetry data that is extensively discussed in Appendix A to the SEIS. We believe that this analyses substantiates the NMFS conclusions regarding the relative importance of areas within 0-10 miles of rookeries and haulouts. [A 34 page analysis is included as part of the comment, see letter 793].

Response: NMFS acknowledges the additional analysis of the telemetry data.

Comment 116: The term "conditionally significant" should not be used. NMFS should limit its categories to significant, insignificant and unknown.

Response: NMFS is considering this point for future analyses, but will not be changing the terminology for describing significance for this analysis. The use of the qualifier "conditional" is important to readers interested in knowing for which issues incomplete or unavailable information was a factor in the findings. When the qualifier of conditional is attached to a significance rating it does indicate incomplete or unavailable information. If the conditional qualifier is abandoned another system will need to be devised to indicate where incomplete or unavailable information exists.

Comment 117: The discussion of cumulative effects is confusing because it includes "past external influences" or historical effects. This allows assessment of past events in the cumulative effects section but the analysis would be clearer if these were included in the description of the baseline.

Response: NMFS disagrees. The cumulative effects section was based on the guidelines developed in the CEQ's cumulative effects handbook (CEQ 1997) and federal agency guidelines based on that handbook.

Comment 118: The SEIS fails to demonstrate that fishing mortality rates and corresponding TAC limits under any alternative are adequate to address jeopardy and adverse modification at the global scale of competitive interaction.

Response: Steller sea lion prey and foraging behavior are discussed at length in section 3.1.1.7. Following that in section 3.1.1.8 on physiology and nutrition, is a quantitative presentation of food intake requirements. Question 2 in the effects on marine mammals analysis is: Does the alternative management regime result in fisheries harvest on prey species of particular importance to marine mammals at levels that could compromise foraging success? Findings were insignificant for all five alternatives. Question 3 in the effects analysis is: Does the alternative management regime result in temporal or spatial concentration of fishing effort in areas used for foraging by marine mammals? Findings were insignificant for Alternatives 4 and 5 and conditionally significant beneficial for Alternatives 2 and 3. The question of jeopardy was addressed in the Biological Opinion. The determination is that Alternative 4 will not pose jeopardy to the endangered Steller sea lion.

Theme 8. Comments on the NEPA process or other associated issues.

Comment 119: Table 5.2 of the Biological Opinion seems to be the framework for the RPA, but there are significant differences between the measures in the Table and the actual RPA. [note: we don't have an RPA, we have Steller sea lion protection measures. We believe this comment refers to Table 5.4 of the 2001 Biological Opinion.]

Response: The preparers made a crosswalk of fishery management measures that would be present under each of the five alternatives to help readers understand the differences between alternatives (see Table ES-1 or Section 2.3 containing a Table 2.3-2). These comparisons are organized by type of fishery management measure using broad categories of management tools.

Comment 120: The comment period should remain open for an additional 60 days.

Response: Timing considerations relating to the orderly conduct of the 2002 groundfish fisheries preclude extending the comment period. Constituents will have many future opportunities to comment on other analyses and related fisheries management actions at all North Pacific Fishery Management Council meetings.

Comment 121: The draft EIS is difficult to read, poorly organized and is not arranged in a logical manner.

Response: Though the subjects are complex and the issues numerous, NMFS disagrees that the analysis is poorly organized. The organization follows a logical and predictable pattern throughout the document. Because impacts of these fisheries on Steller sea lions are key issues, they are always treated first and in the most depth. Following Steller sea lion discussions are the other marine mammal species and groups, principal target groundfish fish species, non-specified fish species, forage fish, prohibited species, endangered species act listed pacific salmon, seabirds, habitat, ecosystem, state managed fisheries, management and enforcement issues, and social and economic parameters. The organization of topics in the Affected Environment and Environmental Consequences chapters are mirror images; to read the background of any section in chapter 4 turn to the same subsection number in chapter 3. The cumulative impact analysis follows the same order and section numbering scheme. Each section has a summary table for comparison of impacts across all five alternatives, plus Table ES-2 provides one complete summary of impacts across the five alternatives for all resources and issue analyzed.

Comment 122: The SEIS fails to review and relate previous ESA Section 7 consultation findings and independent scientific panel findings regarding the importance and treatment of critical habitat to Biological Opinion 4's radical new approach to critical habitat.

Response: NMFS disagrees. The history of prior consultations is summarized in the biological opinion. Findings by the Academy of Sciences' panel are not available yet. The Council retained independent scientific panel had not released their findings prior to preparation of the 2001 biological opinion.

Comment 123: We have rated the draft SEIS EC-2 (Environmental Concerns-Insufficient Information). [The rationale for this rating is set forth in comment number 790]

Response: Rating has been noted. EPA's specific comments about this analysis are paraphrased into the rest of these comments and responded to accordingly.

Comment 124: The United Nations Highly Migratory and Straddling Fish Stocks Agreement directs signatory nations to incorporate the precautionary approach in the way they manage their own fish stocks. The U.S. is a signatory nation and should begin living up to this commitment.

Response: Fisheries management of North Pacific groundfish species is underlain by principles of the precautionary approach. Stocks of pollock, Pacific cod, and Atka mackerel are not presently, and have not in the past, been overfished.

Comment 125: NMFS rationale for rejecting full consideration of the "no fishing" alternative--that it would be inconsistent with the FMP and the Magnuson-Stevens Act--is insufficient. NEPA requires an EIS to examine all reasonable alternatives, including those that may conflict with certain statutory requirements.

Response: The no fishing alternative has been considered previously (i.e., NPFMC 1981, NMFS 1998a, NMFS 2001a), and it is an alternative that has been analyzed repeatedly in the annual TAC setting NEPA analysis. It was not considered in this analysis because it would be inconsistent with the objectives for these FMPs and the Magnuson-Stevens Act.

Comment 126: The SEIS fails to consider a reasonable range of alternatives. A range of alternatives between a no fishing and the "no action" alternative should have been considered. Specifically, NMFS should have presented an alternative that set TAC levels at 50% of their current level. The DSEIS should thus be revised as provided in 40 C.F.R. Section 1502.9(a).

Response: Alternative 2 falls between a no fishing scenario and the no action alternative (1). We recognize that Alternative 2 does not go so far as setting TAC levels at 50% of their current level, however, the scope of this analysis was never envisioned to be an exploration of the impacts associated with setting TACs at various percentages of their current level.

Comment 127: We fully endorse the comments submitted by Greenpeace, American Oceans Campaigning and the Sierra Club [comment letter [comments 8-10].

Response: Statement of constituent's position noted.

Comment 128: Alternative 4 fails to satisfy outstanding requirements of previous Biological Opinions RPAs or explain why such measures are no longer necessary.

Response: NMFS disagrees that Alternative 4 fails to satisfy the RPAs or that Alternative 4 is not in full compliance with the ESA. The response to the next comment gives an overview of the relationship between this environmental impact statement, the latest Biological Opinion (October 19, 2001), and prior Biological Opinions.

Comment 129: The RPAs associated with Biological Opinion 3 (the FMP Biological Opinion) stated that competitive interaction must be addressed on three scales to eliminate jeopardy: global, regional and local. Biological Opinion 3 was not superseded by Biological Opinion 4 and continues to be the governing document for this management decision. We fail to see any justification for ignoring the principles of Biological Opinion 3's RPAs in the draft EIS. Further, we fail to see how Biological Opinion 4 can reach dramatically different conclusions than Biological Opinion 3 while at the same time acknowledging that the RPAs as recommended by Biological Opinion 3 are still valid.

Response: The November 30, 2000 biological opinion was developed in response to the Court, which had determined that NMFS had not successfully prepared a comprehensive, FMP level opinion. For that opinion NMFS determined that the action (authorization of the BSAI and GOA FMPs) was likely to jeopardize Steller sea lions and adversely modify their critical habitat. NMFS developed an RPA as required by regulation that involved both FMP level and project level elements. For example, the implementation of a

global control rule was an FMP level element of the RPA, while fishery closures for pollock in certain areas was a project level element. In 2001, NMFS received substantial new information on the location of Steller sea lions and their relative location to fisheries. This prompted the Council to develop a new fishery management regime for pollock, Pacific cod, and Atka mackerel based on the new information and the need to avoid jeopardy and adverse modification of critical habitat. Consultation was requested by the Sustainable Fisheries Division on the new proposed action. This new proposed action was not an RPA. Additionally, the consultation was requested at the project level, and did not require a new biological opinion at the FMP level as the only element at the FMP level was the global control rule which was not being substantially changed from the previous consultation. Therefore, the Nov. 2000 biological opinion still stands as NMFS requirement to consult on the FMPs. The October 2001 opinion meets NMFS' requirements to consult at the project level on all federal actions.

The October 2001 biological opinion incorporates much of the Nov. 2000 opinion as an overarching guiding document for the fisheries. However, at the project level, the October 2001 opinion utilized new information not available in Nov. 2000 to determine whether the proposed action is likely to jeopardize Steller sea lions or adversely modify their critical habitat. The October 2001 biological opinion relies more heavily on protection of nearshore areas than on the temporal and spatial distribution of the fishery, in large part due to the limited interaction between fisheries and sea lions as determined from the new telemetry information. It should be noted that as new information becomes available, NMFS is required to re-initiate consultation if that information would change the way in which NMFS manages fisheries in order to avoid jeopardy and adverse modification of critical habitat.

Comment 130: The national standards and other applicable law dictate the selection of Alternative #4 as the preferred alternative [commenter presents 7 pages of commentary on this issue, see letter 793].

Response: Statement of constituent's position noted.

Comment 131: The SEIS fails to evaluate, explain or justify the basis of the arbitrary Biological Opinion conclusion that food limitation and nutritional stress are less important factors in the current decline. These conclusions are counter to the conclusions of earlier Biological Opinions and appear to be based on very limited research and small sample size experiments.

Response: Both the SEIS and Biological Opinion discuss the equivocal nature of the available data for determining the role that food limitation and nutritional stress may have on the Steller sea lion decline. The available data neither support nor negate the hypothesis that nutritional stress is the cause for the decline in numbers of the western stock of Steller sea lions. NMFS does, however, utilize the best available data which suggests that the decline is likely caused by both nutritional stress from an unknown source and the synergistic effects of environmental variability. In the absence of compelling data, NMFS feels that it has reached the appropriate conclusions with the best available data.

Comment 132: In the discussion of ecosystem based management, there should be a statement that the NPFMC has been a leader in ecosystem based approaches to management and give examples.

Response: We agree that management measures implemented for Alaska groundfish generally follow measures recommended by the National Research Council for an ecosystem-based approach. A discussion of the current fisheries management policies relative to an ecosystem based approach is contained in the Draft Programmatic SEIS (NMFS 2001a).

Comment 133: The SEIS fails to provide any analysis or supporting evidence showing that Alternative 4 trawl exclusion zones will eliminate competition between foraging Steller sea lions and large trawl fisheries around rookeries and haulouts as required in the December 1998 Biological Opinion, the October 1999 pollock RFPRA and the November 2000 FMP Biological Opinion.

Response: Based on the section 7 consultation concluded on October 19, 2001, it is NMFS position that the preferred alternative complies fully with the requirements of the ESA.

Comment 134: The conclusions of the 2001 Biological Opinion [i.e. the zonal approach] are the basis for the alternatives presented in the SEIS. Based solely on the telemetry data NMFS has determined that spatial and temporal dispersion are low priority beyond 10 nm, and that catch limits beyond 10 nm are unnecessary. NMFS has failed to disclose and analyze available information, including its own consultation record.

Response: NMFS finds that all relevant information, including the past history of consultations, has been analyzed and disclosed.

Comment 135: NMFS has selected a preferred alternative that does not comply with either the EFH requirements of the Magnuson-Stevens Act or the Endangered Species Act.

Response: Based on the ESA section 7 consultation concluded on October 19, 2001, and the Essential Fish Habitat consultation concluded on October 24, 2001, and this NEPA environmental impact statement document, it is NMFS position that the preferred alternative (Alternative 4 of the Steller Sea Lion Protection Measures SEIS) complies fully with the requirements of the ESA, the Magnuson-Stevens Act, and other applicable law.

Comment 136: The SEIS does not comply with the CEQ regulations regarding incomplete or unavailable information. The agency must summarize the "existing credible scientific evidence" relevant to analyzing those impacts and set forth the agency's analysis of the impacts based upon theoretical approaches or research methods generally accepted in the scientific community.

Response: The commenter is pointing out direction given in Section 1502.22 of the Council on Environmental Quality regulations for implementing NEPA. The preparers of this analysis respectfully disagree with the comment. Actually a great amount of attention was given to summarizing the "existing credible scientific evidence" in the analysis. The affected environment chapter of this analysis was custom written for this proposed action. The topics included are all the resource topics and issues identified during scoping as important to predicting the direct, indirect, and cumulative impacts that will result from implementing changes to fishery management measures for these fisheries. Care was taken throughout these descriptions to reference all (or at least most) pertinent scientific literature that exists and informs agency understanding of these topics. The reference list (chapter 7) contains no less than 921 references.

Further, in preparing the environmental consequences analysis section of the document, incomplete and unknown information relevant to predicting reasonably foreseeable significant adverse impacts is systematically displayed by incorporating the concepts of "conditional" and "unknown" into significance determinations. See the introductory text of Chapter 4 where these concepts are explained.

Comment 137: The SEIS is too complicated and confusing to be understood by the general public. The document should contain a glossary of all scientific terms and an explanation of key scientific concepts.

Response: NMFS sympathizes. The subject is a complex one and the document is necessarily difficult. NMFS is conscious of the fact that in order to make sense of much of the information the reader would already have to understand much about the fisheries and marine life of the North Pacific. However, NEPA does not require that an EIS contain encyclopedic level descriptions of all that the reader may need to know in order understand fisheries management. The following references would be helpful for many readers: 50 CFR 679.2 for definitions of terms beyond those normally found in textbooks; the NMFS Alaska Region Website (<http://www.fakr.noaa.gov/>), the NPFMC website (<http://www.fakr.noaa.gov/npfmc/>) and the numerous publications in the NOAA Technical Memorandum series.

Comment 138: The SEIS overemphasizes socio-economic issues at the expense of analysis of effects on Steller sea lions. As recognized by the EPA in its review of the Draft Programmatic SEIS, filling an EIS with socioeconomic information is a poor substitute for ecological information and may, in fact, distort the analysis [commenter cites a letter from EPA to NMFS]. The emphasis of this SEIS must be on effects on Steller sea lions with the effect on socio-economics being a secondary consideration.

Response: The balance between presentation of ecological information and socio-economic information in this analysis is appropriate. The purpose and need of the federal action is clearly stated in section 1.2. The primary purpose is to modify the fisheries such that the reconfigured fisheries do not jeopardize the continued existence of SSL or adversely modify their critical habitat. A secondary objective is to modify the fisheries such that the reconfiguration minimizes the economic and social costs that will be imposed on the commercial fishing industry and associated coastal communities.

Socio-economic issues were paramount in the minds of constituents from the groundfish fishing industry, coastal communities, State of Alaska, and North Pacific Fishery Management Council when the agency first set out to implement Alternative 3, the Reasonable and Prudent Alternative from the NMFS 2000 Biological Opinion. The cost in first wholesale gross revenues alone was estimated to be hundreds of millions of dollars a year (between \$224 and \$401 million). The controversy that erupted over that proposal was tremendous and seriously unsettling to the industry. The document contains a comprehensive evaluation of ecological impacts (including all affected species of marine mammals, marine fish and invertebrates, benthic habitat and benthic organisms, seabirds, and the ecosystem in total); it also contains complete social and economic impacts analyses for all socio-economic issues associated with this proposed federal action. Ecological issues are presented first organizationally, and the conclusions are supported with science. Although NEPA alone wouldn't have required it, a complete Regulatory Impact Review was included with the analysis (Appendix C). It was required because actions taken to amend fishery management plans or implement other regulations governing the fisheries must be in compliance with the requirements of other federal laws and regulations. One of those is Executive Order (E.O.) 12866 which requires, "In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives..Further, in choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity)."

The CEQ regulations discuss incorporation of a cost-benefit analysis by appending or reference if one is available, at 1502.23. The section says that, "...when a cost-benefit analysis is prepared, discuss the relationship between that analysis and any analyses of unquantified environmental impacts, values, and amenities." The RIR does that with sections on (a) the existence value of Steller sea lion preservation, (b) non-consumptive values from preservation, and (possibly) (c) subsistence use of Steller sea lions.

Comment 139: NMFS released "revised" sections of the Draft SEIS at the October Council meeting. If these revised sections are part of the draft SEIS, they should be released to the general public and the comment period should be extended so that the public can comment on their contents.

Response: The commenter is referring to some trial revisions (draft rewrites) to sections of the draft analysis that received criticism during the first few weeks of public review (and prior to the close of the public comment period). The analysts preparing the document saw that the criticisms were valid concerns about interpretation of results and that those sections should be revised (or expanded) prior to finalization of the analysis. These trial rewrites were non-continuous sequences of pages from sections 3.12.2.10, 4.1, 4.12.2.7, section 1.4.3 of Appendix C, and Appendix F3. Copies were distributed freely to the general public as well as Council and Committee members at the meeting. Council meetings are attended by the majority of constituents that are interested in this action. It was also an opportunity for analysts involved in preparing the document to get feedback on the analytical approach from other peers, agency representatives, and individuals most informed on these topics.

The subject revisions themselves are not substantial in the sense of making major changes in conclusions of the analysis, nor were they associated with structural changes to the alternatives or the addition of a new alternative, therefore, NMFS did not extend the comment period or undertake a second public review of a revised analysis.

Comment 140: The RPA NEPA process is a sham justifying a decision already made. An EIS is a vehicle to analyze the effect of federal actions and to allow the consideration of reasonable alternatives. The timing of the SEIS and the Biological Opinion make it clear that the SEIS is being used to justify a decision that has already been made. Comments on the SEIS were due by October 15 and NMFS intended to release a final Biological Opinion, that only examines the effect of Alternative 4, on October 19. If NMFS were to choose an alternative other than Alternative 4 in the ROD, NMFS would be unable to have a revised Biological Opinion in place prior to the opening of the fisheries in January of 2002. Since NMFS has clearly stated that they intend to open the fisheries in January of 2002, they have no alternative other than to choose Alternative 4.

Response: NMFS maintains the NEPA process used to inform decision makers of the impacts associated with reconfiguration of the pollock, Atka mackerel, and Pacific cod fisheries was as thorough and timely as any that has ever occurred. The agency recognized that an EIS was the appropriate NEPA analysis to inform decisions about this action at the very beginning of the process. The Regional Administrator informed the Council via a letter dated February 1, 2001. That letter was distributed to the public during the Council's February meeting, and the facts of the matter were a fundamental part of the RPA Committee, staff tasking, and all the other public processes that occurred after the Council voted on December 9, 2000, to not adopt the conclusions of the NMFS 2000 Biological Opinion or the RPA contained therein.

The preparers took scoping of this analysis very seriously; attended all the public meetings where Steller sea lions or groundfish fishery management were discussed, and followed exemplary NEPA practices throughout. No issue was dismissed or shortchanged in the analysis. On numerous occasions status reports of the analysis were circulated.

The array of alternatives that were analyzed developed from a series of meetings and decisions designed to fully bracket all the reasonably foreseeable actions that might be taken. The decision to manage the ESA and NEPA processes in parallel was made by the lead agency early in the process (letters dated March 7, 2001). Likewise the decision to prepare a draft biological opinion on only the preferred alternative was appropriately an agency decision. The draft analysis was before the North Pacific Fishery Management Council before any final recommendations were made.

Last, Alternative 3 is the action that was recommended as the reasonable and prudent alternative in the NMFS 2000 Biological Opinion. It could be implemented without triggering re-initiation of consultation, although preparing the rule and implementing it by January 2002 would be difficult. Staff resources are limited, therefore, the agency has not had the luxury of staff to prepare rule language for other than the preferred alternative.

Comment 141: The SEIS must explicitly consider recovery in framing alternatives and in analyzing the effect of those alternatives. In NMFS' regulations implementing the ESA, NMFS has determined that the jeopardy inquiry requires consideration of whether an action would be expected to reduce the likelihood of both the survival and recovery of a listed species. In this SEIS, NMFS fails to tie the analysis to a recovery goal thereby failing in its statutory mission to ensure the recovery of the Steller sea lion.

Response: NMFS addressed the recovery standard in the October 2001 biological opinion under the ESA, and determined that Alternative 4 would not jeopardize either the survival or recovery of Steller sea lions. See responses to comments 1, 10, 20, and 22 as the thrust of comments are similar.

Comment 142: The SEIS fails to consider substantial information relevant to the Biological Opinion's interpretation of the telemetry data, indicating that Steller sea lions forage extensively beyond 10 nm. [commenter presents a multi-page analysis of this argument, reproduced in full on page 23-26 of comment # 786].

Response: NMFS disagrees. While some disagreements among researchers may exist on specific aspects of specific research, NMFS has attempted to use the best available information to draw reasoned conclusions. Complete agreement on interpretation of data as complex as these is unlikely in the near term

Comment 143: It is not possible for the agency to comply with all the reasonable and prudent measures and terms and conditions set forth for monitoring in the incidental take statement of the Draft Biological Opinion. In particular the condition requiring monitoring of vessels fishing for groundfish inside specified closed areas to determine if they are directed fishing for pollock, Atka mackerel, or Pacific cod.

Response: These reasonable and prudent measures were reviewed among regulatory, enforcement, and the consulting staff, and revised to respond to the concerns expressed by the commenter. Increased use of vessel monitoring systems is part of implementing the new management measures.

